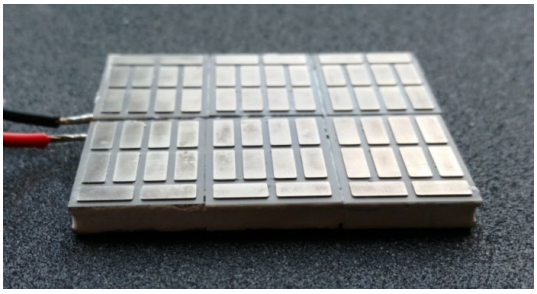
MPG Series A6-200:2018-009A ***Beta Prototype***

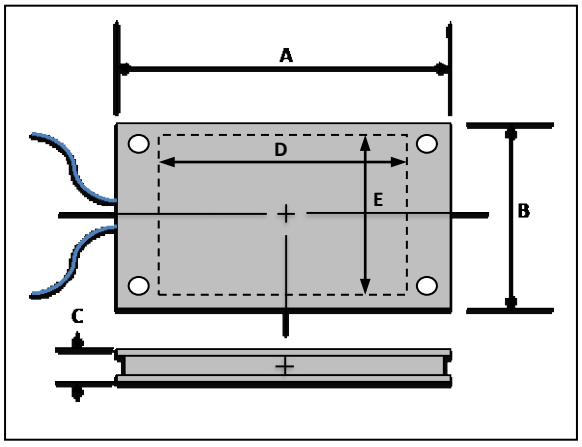
Thermoelectric Power Generator

Distributed by TECTEG

Features

- Up to 18 watts when chips are at ΔT of 415C
- Encased in stainless steel and aluminum plates to protect modules, sealed with low-k ceramic
- Connect in series or parallel to meet power specification
- 12% to 14% efficiency at 425C to 550C on chips
- Data is based on chip-level tests at 440C T_{hot}, 25C T_{cold}
- Made in the USA





A (cm)	B (cm)	C (cm)	D (cm)	E (cm)
5.1	4.2	0.5	4.1	3.7

Description

The MPG A6-200:2018-009A Thermoelectric Module is a solid-state converter of heat to electricity. It contains 54 couples of n-type PbTe and p-type TAGS chips made with MicroPower's proprietary manufacturing technologies. Optimum p are achieved when chips are exposed to hot side temperatures in the range of 425°C to 550°C. Special testing and installation conditions must be met to achieve optimum performance. Contact manufacturer for more information.

Applications

Power Supplies

- Use waste heat to generate a source of power in remote locations.
- Burn a hydrocarbon fuel to generate a source of power in remote locations.
- Cathodic protection
- Telecommunications

Self Powered Devices

- Heaters
- Water Heaters
- Furnaces
- Vehicle Engine Heaters

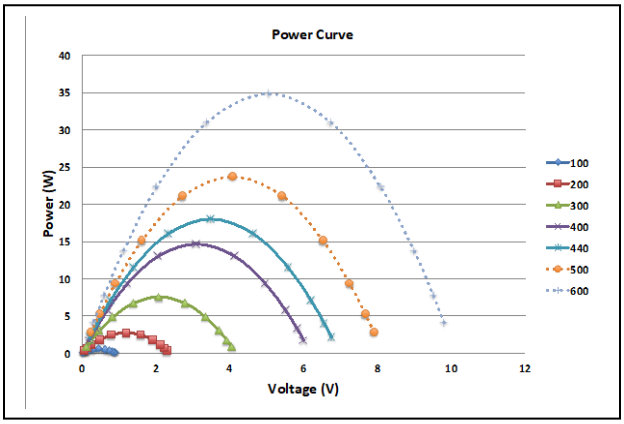
Waste Heat Recovery

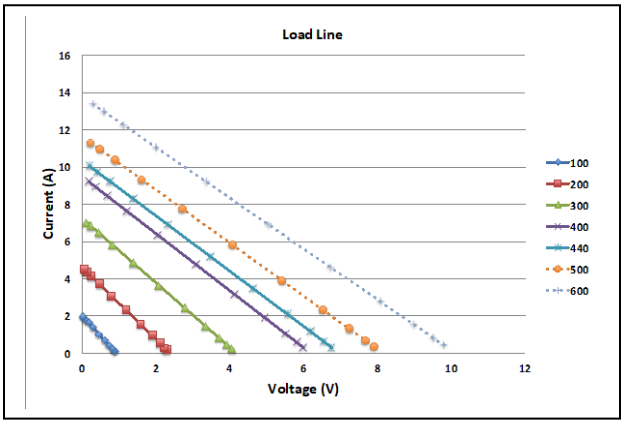
- Engine exhaust powered alternator replacement
- Industrial operations such as refineries, foundries, glass and cement plants

Renewable Energy

- Solar Concentrators
- Wood burning stoves
- Geothermal
- Incinerators

Parameter	Conditions	Typical	Units
Power	T_h=440C, T_c=25C @ matched load	18	Watts
Voltage, Open Circuit	T_h=440C, T_c=25C	7.0	Volts
Voltage, Matched Load	T_h=440C, T_c=25C @ matched load	3.5	Volts
Internal Resistance	T_h=440C, T_c=25C	0.67	Ohms
	T=25C	0.44	Ohms
Current	T_h=440C, T_c=25C @ matched load	5	Amps
	T_h=440C, T_c=25C @ short circuit	10	Amps





Notes:

1. Take extreme care in handling, subject to damage when not under evenly applied compression - measure resistance at room temperature (~25C) upon receipt, if >30% of data sheet contact TECTEG
2. All modules receive post-assembly resistance and mechanical checks to verify conformance to data sheet
3. Chips are cycled up to 440˚C for baseline monitoring, test modules are cycled up to 400˚C
4. Customer-grade modules are resistance-checked and tested up to 300˚C prior to placement in arrays
5. Efficiency data is based on independent tests performed by the Army Research Lab
6. Modules can be connected in series or parallel to generate power output per application's specifications
7. Power output terminals are spot-welded on the cold side, can withstand temperatures of up to 700˚C
8. Presence of evenly applied positive compression is always required
9. Hot Side: Recommend use of high temperature sheet (e.g., GRAFOIL®)
10. Cold Side: Recommend use of thermal paste/grease
11. High temperature wire with male quick-connect terminals
12. All terminals are attached on cold side plate
13. Recommend attaching large interconnect wire (No. 3 or larger)
14. Application must provide fixed support for stress relief
15. Gradual degradation may occur over time at high temperatures
16. Modules are confirmed at minimum 85% performance before shipment

For inquiries contact https://tecteg.com/